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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,807	10/12/2005	Bastian Albers	P17214-US1	9912

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EXAMINER	
RECEK, JASON D	

ART UNIT	PAPER NUMBER
2142	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/526,807	ALBERS ET AL.	
	Examiner	Art Unit	
	Jason Recek	2142	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is in response to the amendment filed on November 20th 2007 which concerns application 10/526,807.

Status of Claims

Claims 1-22 are pending.

Claims 13-22 are finally rejected under 35 U.S.C. 101.

Claims 1-22 are finally rejected under 35 U.S.C. 103(a).

Response to Arguments

1. Applicant's arguments with respect to the claim objections and the rejection under 35 U.S.C. 112, second paragraph, have been fully considered and are persuasive. The claim objections and 112 rejection have been withdrawn.

2. Applicant's arguments filed November 20th 2007 have been fully considered but they are not persuasive.

3. Applicant argues that by modifying claim 13 to recite "physical" the rejection under 35 U.S.C. 101 should be withdrawn. This argument is not persuasive. The claim

reads "physical computer-usable medium" however no where in the specification is this term limited to a physical storage medium. In fact, the specification says the program unit may be a sequence of signals (paragraph 35), and thus a broad interpretation of the claim still includes signals. Signals are per se not statutory.

4. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., delay budget indicative of the capacity for making retransmissions without the transmission of first data packets beyond their presentation time) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Therefore Radha does disclose the delay budget as recited by claim 1.

5. Applicant's argument that Radha does not disclose **selective** retransmission based on a comparison as recited by claim 1 has been fully considered and is persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Radha and Zhu et al. U.S. 6,085,252. Zhu discloses selective retransmission as discussed below.

Applicant's arguments with respect to the 35 U.S.C. 103(a) rejections are similar to the arguments made above and thus the rejections have been withdrawn however a new ground of rejection is made in view of Radha and Zhu.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 13-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed to a computer program product in a physical computer usable medium however the specification defines a computer usable medium as including signals (paragraph 35), this language makes claims 13-22 non-statutory. The term "physical computer-usable medium" may take many forms, including, but not limited to, non-volatile, volatile, and transmission media... transmission media includes coaxial cables, copper wires and fiber optics, including the wires that comprise the bus. As such, claims 13-22 as written and in view of Applicant's disclose (paragraph 35), are not limited to statutory subject matter and are therefore non-statutory. See MPEP 2106.01

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-8, 10-20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Radha et al U.S. Pat. No. 6,700,893 B1 in view of Zhu et al. U.S. 6,085,252.

Regarding claim 1, Radha discloses "transmission of a plurality of data packets from a sender to a receiver, wherein the data transmission is performed over a link with limited transmission capacity" as streaming data over a network (Fig. 1), "a presentation time is defined for a first data packet of said plurality" as a time that a data packet must be delivered in order to be useful (col. 1 ln. 50-52), "the receiver performs a first check whether data packets are correctly received and at least one data packet is selected for retransmission" as the receiver detecting missing packets and requesting retransmission (col. 3 ln. 22-26), "determining a delay budget from the presentation time of the first data packet" (col. 2 ln. 58-60), "determining a delay requirement for the retransmission of the selected data packet" as calculating how long it will take to retransmit the lost data packet (col. 12 ln. 53-55), "comparing the delay requirement and the delay budget" as comparing the budget with the transmission requirement (col. 15 ln. 41-50).

Radha does not specifically disclose "selectively executing retransmission for the selected data packet according to the result of the comparison" however this is taught by Zhu as determining whether or not to request a retransmission based on a budget (col. 5 ln. 10-17).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Radha by selectively retransmitting as taught by Zhu for the purpose of conserving bandwidth. Zhu suggests this by disclosing that too much data will slow down the network (col. 6 ln. 8-11).

Regarding claim 2, Radha discloses "the receiver stores data packets in a buffer with a buffer fill level and wherein the delay budget is a function of the buffer fill level" as a buffer for receiving packets and a delay budget controller that monitors the fill level or underflow status of the buffer (col. 5 ln. 64-67, Fig. 1).

Regarding claim 3, Radha discloses "the delay budget is determined from the presentation times for each of a group comprising at least two first data packets" as providing a delay budget controller capable of operating on streams of data packets (col. 3 ln. 9-14) thus a delay budget for a group of at least two packets exists.

Regarding claim 4, Radha discloses "the first data packets of the group are to be transmitted in a predefined sequence, and wherein additional data packets are to be

added to the group, which are the next data packets for transmission in the predefined sequence" as the invention relates to a stream of data (col. 3 ln. 9-14) the packets have a predefined sequence, and "the adding of additional data packets to the group is stopped if the delay budget is expected to remain constant for further additional packets" as constraints that the delay budget must adhere to, one of which is that the budget is determined by packet retransmission time and thus only a finite number of packets may be selected (col. 12 ln. 60- col. 13 ln. 3).

Regarding claim 5, Radha discloses "the receiver requests retransmission of the at least one data packet in a status message" as the receiver requesting retransmission of selected packets by sending a status message that the packets were not received (col. 16 ln. 18-20, Fig. 6).

Regarding claim 6, Radha discloses "the delay budget is reduced by the delay requirement if a retransmission is performed" as a delay budget that consists of delay requirement thus when retransmission is performed the delay requirement is no longer and the delay budget would be reduced (col. 12 ln. 52-65).

Regarding claim 7, Radha discloses "a further comparison of the delay budget with a further delay requirement is performed before a further calculation of the delay budget" as calculating the delay budget once, and then continually comparing the budget with the delay requirement for a particular packet (col. 16 ln. 2-17, Fig. 6).

Regarding claim 8, Radha discloses "the delay budget is updated if a present rate of the data transmission is lower than the limit of the data transmission capacity" as a delay budget that adapts to network conditions (col. 11 ln. 10-12) such as round-trip delay and bandwidth (col. 11 ln. 51-52).

Regarding claim 10, Radha discloses "a presentation time of the at least one selected data packet is compared to an estimated arrival time of the at least one selected data packet at the receiver in a further check and wherein the retransmission of the at least one selected data packet is performed according to the result of the further check" as a time that a data packet must be received in order to be used (col. 1 ln. 50-52), the purpose of the invention is to eliminate wasteful retransmission, the arrival time is determined form the retransmission time and if successful the packet will be recovered (col. 13 on. 35-42).

Regarding claim 11, it is directed towards a sender for performing the method of claim1 and is therefore rejected for the same reasons as claim 1. However, Radha does not specifically disclose that the sender has ability to "define a presentation time for a first data packet" nor "determine a delay budget" nor "determine a delay requirement". Radha discloses the receiver as having these capabilities (col. 2 ln. 58-60, Fig. 1) and furthermore teaches that the sender and receiver may be PCs (col. 5 ln. 27, col. 6 ln. 9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Radha by providing the functionality taught in the receiver in the sender. It is well known in the art and yields predictable results to have a server perform functions for a client, by adding the ability to the sender to determine delay budget and delay requirement, the sender is now acting like a server and performing functions for the client.

Regarding claim 12, it is directed towards a receiver for performing the method of claim 1 and is therefore rejected for the same reasons as claim 1.

Regarding claims 13 –20 and 22, they are substantially similar to claims 1-8 and 10 respectively because they are directed to a program product that contains a computer program to perform the method of claims 1-8 and 10, therefore they are rejected for the same reasons. Radha discloses that the method is embodied in a computer environment (col. 6 ln. 15-18).

2. Claims 9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Radha and Zhu in further view of Hackenberg et al. U.S. Pat. No. 6,792,470 B2.

Regarding claim 9, Radha does not disclose "a priority is attributed to the at least one selected data packet and wherein the retransmission is executed according to said

priority" however this is taught by Hakenberg as determining the level of priority for a data frame and transmitting the frame with higher priority (col. 6 ln. 42-54, Fig. 6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Radha and Zhu with the priority attribute of Hakenberg. The motivation for doing so is to provide quality of service. It is well known in the art that a priority attribute can be used to provide quality of service, doing so yields predictable results.

Regarding claim 21, it is substantially similar to claim 9 and is therefore rejected for the same reasons and motivation.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Loguinov U.S. 7,164,680 B2 discloses selective retransmission of packets based on a delay budget.

Balachandran et al. U.S. 7,068,619 B2 discloses retransmitting lost packets when permitted by the delay budget.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Recek whose telephone number is (571) 270-1975. The examiner can normally be reached on Mon - Thurs 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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